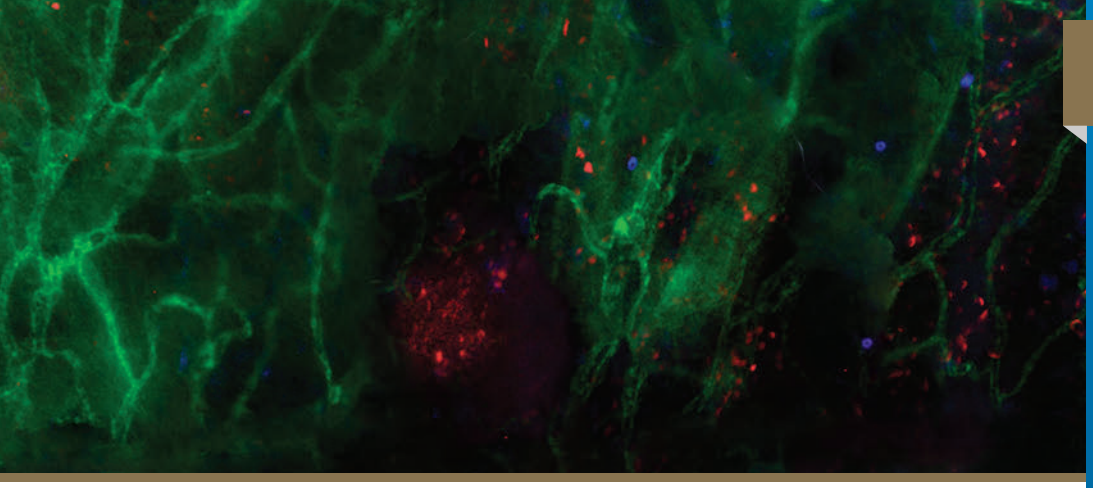

Leading the way in Preventions and Cures

New Vaccines and Preventions

Hundreds of thousands of infants, children, and adults around the world are alive and well today because of breakthrough vaccines developed at the University of Rochester. These include vaccines that prevent deadly pneumonia, meningitis, and sepsis in children, as well as crucial contributions toward the **world's first cancer vaccine**, which prevents infection by the human papilloma virus. Nevertheless, emerging threats such as pandemic influenza, and antibiotic resistant bacteria are stark reminders that the fight to prevent and treat diseases is not over.

Our scientists are **leading national efforts to develop novel anti-microbial drugs and vaccines.** We have identified pathogen-specific traits that serve as targets for new treatments for deadly drug-resistant pathogens, including methicillin-resistant Staphylococcus aureus (MRSA), the "superbug" which causes nearly 500,000 hospitalizations and 19,000 deaths in the United States each year.

We also seek to understand **how the healthy microbes that inhabit our bodies (our "microbiome") influence our susceptibility to disease.** Each of us is "home" to trillions of microbes—which help digest our food and protect us from pathogens, but can also determine our risk of allergy, obesity and autoimmunity. We are applying new technologies and powerful computational analyses to study the complex interplay between the microbiome, the immune system and pathogens. This will lead to **new insights into health and disease**—such as how early life exposures to microbes influence health and disease later in life.

Finally, we are studying how immune cells travel across the body to reach sites of infection and disease. As one of the top five super-computing educational sites in the nation, we're using cutting-edge imaging technologies to **visualize immune cells directly within the body, in real time**—with the ultimate goal of developing more effective vaccines and treatments.

Paul Dunman, Ph.D.
Studying new treatments for deadly drug-resistant pathogens like MRSA.

Gloria S. Pryhuber, M.D.
Studying the microbiome, the immune system, and pathogens.

Deborah J. Fowell, Ph.D.
Studying how immune cells travel across the body.

The MELIORA CHALLENGE
THE CAMPAIGN *for the* UNIVERSITY OF ROCHESTER

*With your help, we can build on our legacy of **immune-based** preventions and cures, and create new knowledge that improves **your health and** the health of people around the world.*

Your Gift Will Help Us Lead the World in Immune-Based Preventions & Cures

We have a proven record in developing vaccines that improved health world-wide. But we must do more. You can help us better understand how we become susceptible to infections and diseases, and develop the knowledge that will lead to new preventions and cures. Join us to have a global impact today.

ENDOWED PROFESSORSHIPS—$1,500,000 *to* $2,000,000 OR MORE

Professorships are among the most coveted and defining rewards that a faculty member can receive, recognizing and fostering excellence. They also serve as a powerful recruitment tool, drawing new faculty and researchers of established distinction from around the world. Your gift will help us recruit: an expert in immunology and infectious disease who is also a leader in data- intensive studies; and an expert in microbiome evaluation and manipulation, both of whom will help us develop to first-in-human trials to help people around the world.

ENDOWED RESEARCH FUNDS—$750,000 *to* $1,000,000 OR MORE

Supports mid-career scientists who have not yet attained the rank of full professor, providing a vital connection between the work of our most eminent scientists and tomorrow's future scientific leaders.

TEAM SCIENCE FUNDS—$500,000 *to* $1,000,000 *(multi-year)*

Most scientific discoveries are not made by one lone scientist. Generally, they are the result of years of intensive work by teams of researchers that include graduate students, post-doctoral fellows, and laboratory technicians. You can support the contributions of our entrepreneurial, innovative research teams who have a legacy of working collaboratively across disciplines and with scientists from other institutions. You can also support the technology that helps us visualize infections and immune system response in real time, creating new knowledge that will help us develop more effective vaccines and treatments.

RISING STAR FUNDS—$250,000 *to* $500,000 *(multi-year)*

Support at this level can help the best and brightest, early-career researchers fund promising science that may be too cutting-edge to attract external funding from traditional avenues of support like the National Institutes of Health (NIH); work that is vital to scientific discoveries and advances.

PILOT PROJECTS/SEEDS FUNDS—$50,000 *to* $100,000 *(annually)*

Gifts for seed funding are "risk capital." They allow scientists to shift the direction of their research to follow promising leads or new ideas, propelling scientific discoveries in new ways. You can help give researchers the time they need to push the boundaries of science and allow innovative ideas to reach their full potential.

POSTDOCTORAL AND STUDENT FELLOWSHIPS—$25,000 *to* $75,000 *(a one-year fellowship)*

Funds support an aspiring scientist while providing research training and mentorship in the laboratory setting.

For more information about how your gift can make an impact, please contact Dianne Moll at:
(585)273-5506 • dianne.moll@rochester.edu

UR MEDICINE

MEDICINE *of* THE HIGHEST ORDER